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Title:	Innovative applications of block preconditioning and fast linear solvers
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Innovative applications of block preconditioning and fast linear solvers

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Postdoctoral Fellow
Research Showcase
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National Nuclear Security Administration
Managed by Triad National Security, LLC for the U.S. Department of Energy's NNSA

Year at a glance

Author/co-author papers:

- Three papers accepted for publication in SISC.
- Three papers currently in review (SISC and NLAA).
- Four papers in preparation, will submit this winter/spring.
- Three conference procs. at American Nuclear Society M&C.

Other:

- Lead author, co-PI on accepted ER proposal (FY22-FY24).
- Subcontract from JPL to model for NASA mission proposal.
- Co-mentoring 2022 summer student from Virginia Tech.
- Invited plenary talk at 2021 parallel-in-time workshop.

Ongoing and upcoming research

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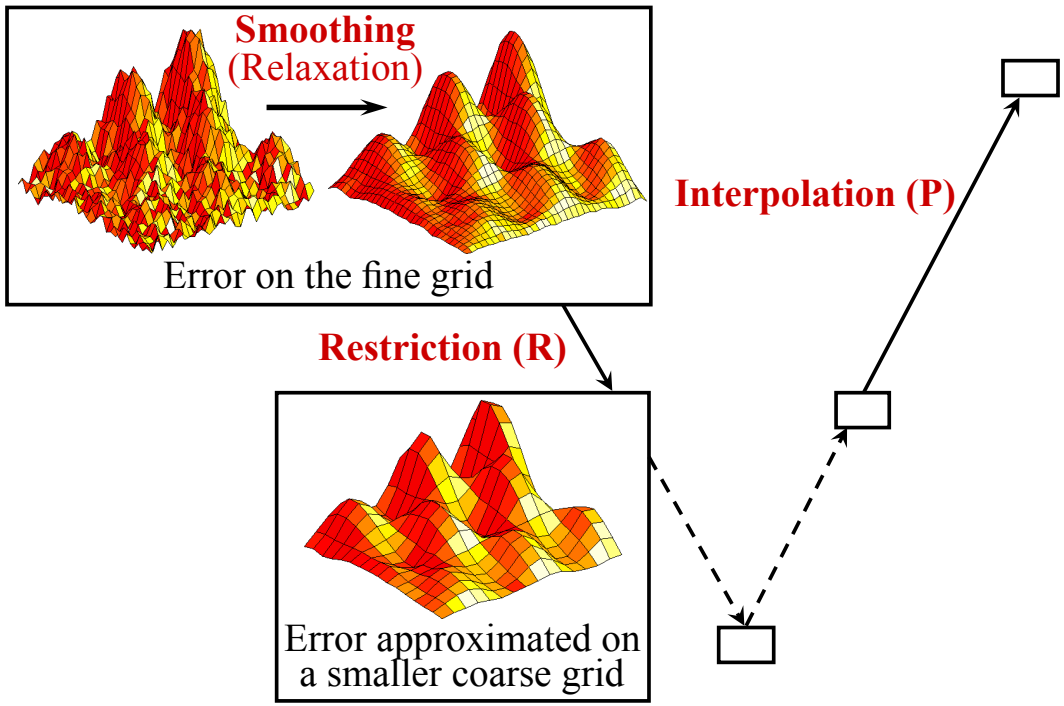
3. Multilevel methods to train data science models.



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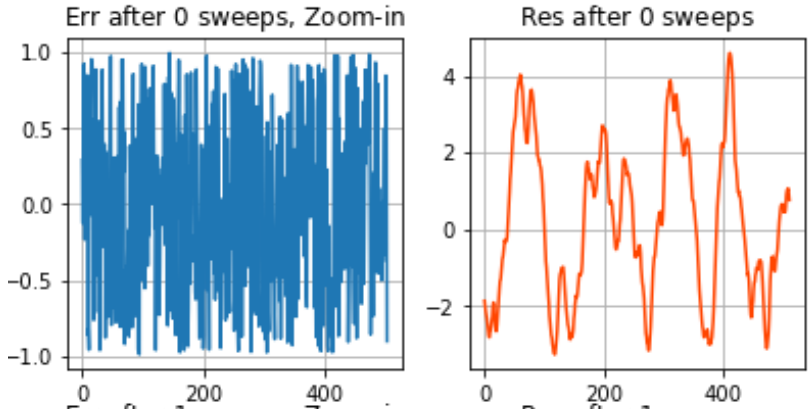
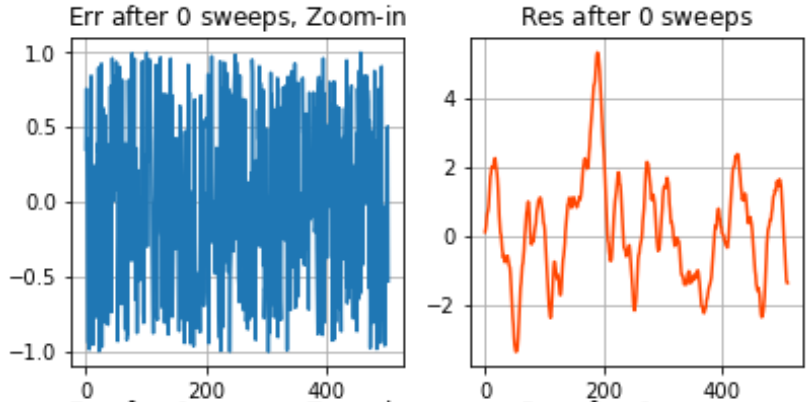
For data samples $\{s_1, ..., s_n\}$ *Kernel* operators constructed from distance between points; comes up in Gaussian process regression, optimal transport, support vector machines.

$\Longrightarrow$ How do we *smooth* kernels??

Distributive relaxation for kernels





Thank you LANL and LDRD/ASC!